AMENDMENTS TO THE CLAIMS

IN THE CLAIMS:

A complete set of claims is provided below.

Claims 1-10 and 14-52 have been canceled.

1.-10. (Canceled)

11. (Currently Amended) A method for optimizing a knowledge base in a soft computing controller for maneuvering a motorcycle, comprising:

selecting a fuzzy model by selecting one or more parameters, said one or more parameters comprising at least one of a number of input variables, a number of output variables, a type of fuzzy inference model, and a teaching signal;

optimizing linguistic variable parameters of a knowledge base according to said one or more parameters to produce optimized linguistic variables according to a teaching signal obtained from a dynamic simulation model of a motorcycle and rider;

ranking rules in said rule base according to firing strength; **and**

eliminating rules with relatively weak firing strength leaving selected rules from said rules in said rule base;

optimizing said selected rules, using said fuzzy model, said linguistic variable parameters and said optimized linguistic variables, to produce optimized selected rules.

12. (Original) The method of Claim 11, further comprising optimizing said selected rules using a derivative-based optimization procedure.

13. (Original) The method of Claim 11, further comprising optimizing parameters of membership functions of said optimized selected rules to reduce approximation errors.

14.-52. (Canceled)